

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 4732/MM	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/EP 00/ 05157	International filing date (day/month/year) 05/06/2000	(Earliest) Priority Date (day/month/year) 23/06/1999
Applicant N.V. BEKAERT S.A.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :



contained in the international application in written form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.



as suggested by the applicant.



because the applicant failed to suggest a figure.



because this figure better characterizes the invention.

1



None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

PCT 00/05157

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 F01N3/022 F01N3/027 F01N3/02 F01N3/032 F01N3/28
F01N3/021

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 F01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0 358 522 A (MINNESOTA MINING & MFG) 14 March 1990 (1990-03-14) column 2, line 41 -column 5, line 18 figures ---	1-7, 13, 14
Y A	US 5 873 918 A (FURRER JUERGEN ET AL) 23 February 1999 (1999-02-23) column 1, line 66 -column 4, line 55 figures 1,3 ---	1,2,5-7, 14 4,11,12
Y A	US 5 557 923 A (BOLT HEINZ ET AL) 24 September 1996 (1996-09-24) cited in the application column 2, line 48 -column 4, line 25 figures --- -/--	3,4,13 1,11,12

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

9 October 2000

Date of mailing of the international search report

17/10/2000

Name and mailing address of the ISA

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Ingegneri, M

INTERNATIONAL SEARCH REPORT

International Application No

PC 00/05157

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 764 455 A (SINTOKOGIO LTD ;NIPPON OIL CO LTD (JP)) 26 March 1997 (1997-03-26) page 3, line 32 -page 7, line 17 figures 1B,7 -----	1,3,4,7, 9,11,12

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

EP 00/05157

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0358522	A	14-03-1990	AU 3993489 A	15-03-1990
			BR 8904494 A	24-04-1990
			JP 2256812 A	17-10-1990
			ZA 8906084 A	24-04-1991

US 5873918	A	23-02-1999	DE 19524399 A	09-01-1997
			AU 698568 B	05-11-1998
			AU 6357196 A	05-02-1997
			CA 2225614 A	23-01-1997
			CZ 9703107 A	18-02-1998
			DE 59601618 D	12-05-1999
			WO 9702411 A	23-01-1997
			EP 0836672 A	22-04-1998
			HU 9802921 A	29-03-1999
			JP 3040488 B	15-05-2000
			JP 10511163 T	27-10-1998
			RU 2138652 C	27-09-1999

US 5557923	A	24-09-1996	DE 4223277 A	20-01-1994
			DE 59301423 D	22-02-1996
			WO 9402719 A	03-02-1994
			EP 0650551 A	03-05-1995
			ES 2082655 T	16-03-1996
			JP 8500521 T	23-01-1996

EP 0764455	A	26-03-1997	JP 9085027 A	31-03-1997
			JP 9085028 A	31-03-1997
			US 5800790 A	01-09-1998

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

14

Applicant's or agent's file reference 4732/MM/cvb	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP00/05157	International filing date (day/month/year) 05/06/2000	Priority date (day/month/year) 23/06/1999
International Patent Classification (IPC) or national classification and IPC F01N3/022		
Applicant N.V. BEKAERT S.A. et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 5 sheets, including this cover sheet.

- ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 19/01/2001	Date of completion of this report 27.03.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Tietje, K Telephone No. +49 89 2399 7329 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/EP00/05157

I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

Description, pages:

1-10 as originally filed

Claims, No.:

1-14 as originally filed

Drawings, sheets:

1/2-2/2 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP00/05157

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-14
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-14
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-14
	No:	Claims	

2. Citations and explanations

see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

The invention concerns a diesel exhaust filter system comprising a carrier with permeable parts. Around the permeable parts, electrically conductive, porous filter strips are wrapped in windings; windings being separated and electrically insulated from each other. The filter strips can be heated by applying electrical energy. This causes exhaust particles to be burned, thereby regenerating the filter.

The prior art (EP 0 358 522) also reveals an exhaust filter system with filter elements covering a carrier. However, the filter elements are non-conducting, and they are not wrapped around the carrier in windings. The heating is done by additional electrical wires. Furthermore, the filter elements are not in the shape of "strips".

Document US 5 557 923 reveals another exhaust filter system which includes electrically conductive, porous filter elements. Nevertheless, they are not shaped as "strips", and there is no carrier element.

By wrapping filter strips around a carrier according to the invention, the filter strips can be very long. This allows to minimize the space needed for the filter system and additionally to minimize the electrical power needed for regeneration.

The subject-matter of claim 1 would therefore appear to meet the requirements of Articles 33(2), 33(3) and 33(4) PCT.

Claims 2 to 14 represent dependent claims as permitted under Rule 6.4 PCT, and also appear to meet the requirements of Articles 33(2), 33(3) and 33(4) PCT.

Re Item VII

Certain defects in the international application

1. Independent claim 1 is not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art (document EP 0 358 522) being placed in the preamble (Rule 6.3(b)(i) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).
2. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).
3. The pages of the drawings are not numbered.
4. On page 2, line 20 the word "are" is not necessary.

Re Item VIII

Certain observations on the international application

The paragraph on page 4, lines 21 of the description refers to a preferred embodiment of the invention (as defined in claim 7). The expression "The system according to the invention" in line 21 implies, however, that a feature of claim 1 is described, resulting in a lack of clarity.